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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,322	04/22/2002	Sandrine Tournier	24180-653001	7909

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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,322

Applicant(s)

TOURNIER ET AL.

Examiner

Melanie D. Bissett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites "PLC" thermoplastic materials, where neither the claim nor the specification give a definition for the acronym. The specification does teach that "LCP" refers to liquid crystalline polymers, but further definition of "PLC" is not given. Thus, it is unclear to what thermoplastic polymer the applicants limit the claim.
4. Likewise, the applicant recites "PA6 and MXD6" in claim 13. Although it is the examiner's position that one skilled in the art would recognize "PA6" as polyamide-6 or nylon-6, the applicant gives no guidance to the term "MXD6". Thus, it is unclear to what polyamide material the applicants limit the claim.

Claim Objections

5. Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14 recites a group of water vapor barrier materials, where claim 2 limits the first thermoplastic material to a water vapor barrier material. However, the polymers listed in claim 14 are not

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encompassed in first thermoplastic materials of claim 1. Because a specific group of thermoplastic polymers is given in claim 1, the polymers of claim 14 fail to further limit the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-8, 10-14, and 18-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheatley.

8. Wheatley discloses multilayered reflective bodies having a number of alternating layers of first and second polymeric materials (abstract). One embodiment includes a third polymer, where the alternating layers form a repeating pattern of ABCABC (col. 3 lines 49-53). Materials for this third layer include EVOH, PVDC, and nylons (col. 3 lines 56-59). The barrier layer, including nylon, may also form an external layer outside the stacked material, where adhesives may be used to adhere the layers to the multilayer body (col. 3 lines 49-62). A number of materials are suitable for the first two

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thermoplastic resins, including polypropylene, polyethylene, nylon, and PVDC (col. 9 line 36-col. 10 line 15). Adhesives may be used between the thermoplastic layers of the multilayer film (col. 10 lines 20-29). The reference teaches that films having thicknesses of less than 0.01 inches (254 μm) may be formed, teaching total thicknesses between 10 and 2500 μm (col. 5 lines 50-53). The films are formed by coextrusion (col. 6 lines 5-9). Since the reference teaches the same materials as taught by the applicant for water vapor barrier layers, it is the examiner's position that the reference teaches a first thermoplastic layer forming a barrier against water vapor.

9. Regarding claim 13, the examiner notes that specific nylons or polyamides are not given in the reference. However, the claim is anticipated when EVOH or PVDC is chosen for the barrier layer C. Note that the limitation of claim 13 only limits the polyamide of claim 1. Thus, when the limitation of claim 13 is read into claim 1, the claim does not exclude EVOH or PVDC as choices for the barrier layer.

10. Claims 1-4, 6, 13-14, 16, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bonk et al.

11. Bonk teaches laminated membranes comprising alternating microlayers of an elastomeric layer and a barrier layer, where the composite preferably comprises at least 50 layers but can have thousands (col. 7 lines 1-24). With an average microlayer thickness of 0.01-2.5 μm , a film having 50 layers preferably has a thickness of 0.5-125 μm and a film having 1000 layers preferably has a thickness of 10-2500 μm (col. 7 lines 25-35). Suitable elastomeric materials include polyethylene, polypropylene, and

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polyamides (col. 7 lines 36-50), and suitable barrier layers include EVOH, polyamides, or PVDC (col. 12 line 56-col. 13 line 12).

12. Since the reference teaches the same materials as taught by the applicant for water vapor barrier layers, it is the examiner's position that the reference teaches a first thermoplastic layer forming a barrier against water vapor.

13. Regarding claim 13, the examiner notes that specific nylons or polyamides are not given in the reference. However, the claim is anticipated when EVOH or PVDC is chosen for the barrier layer C. Note that the limitation of claim 13 only limits the polyamide of claim 1. Thus, when the limitation of claim 13 is read into claim 1, the claim does not exclude EVOH or PVDC as choices for the barrier layer.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley.

16. Wheatley applies as above, noting the use of EVOH or nylon polymers as a barrier layer and noting the use of nylon as a thermoplastic layer of a specific refractive index. However, the reference does not exemplify using the materials together in an alternating pattern. The refractive index has been shown to influence the reflective

color of the layered structure (col. 7 line 63-col. 8 line 15). It is the examiner's position that it would have been prima facie obvious to choose nylon and EVOH materials for the thermoplastic and barrier layers to achieve equally improved coloration and barrier properties of the films.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of *Encyclopedia of Polymer Science and Technology*.

18. Wheatley applies as above, teaching barrier layers as thermoplastic layers present in a repetitive structure but failing to mention the crystallinity of the barrier layers. *Encyclopedia of Polymer Science and Technology* teaches that permeability to gas and vapor in a barrier material decrease with increasing crystallinity (p. 321). Thus, it is the examiner's position that it would have been prima facie obvious to use barrier layers having sufficient crystallinity to optimize the gas and/or liquid barrier properties of the film.

19. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bonk et al. in view of *Encyclopedia of Polymer Science and Technology*.

20. Bonk applies as above, teaching barrier layers as thermoplastic layers present in a repetitive structure but failing to mention the crystallinity of the barrier layers. *Encyclopedia of Polymer Science and Technology* teaches that permeability to gas and vapor in a barrier material decrease with increasing crystallinity (p. 321). Thus, it is the examiner's position that it would have been prima facie obvious to use barrier layers

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having sufficient crystallinity to optimize the gas and/or liquid barrier properties of the film.

Allowable Subject Matter

21. Claims 9, 15, and 27-29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

22. The closest prior art, Wheatley, discloses a multilayered reflective body comprising alternating layers. However, the reference does not mention the use of blend layers or adhesive layers soluble in the surrounding layers. Wheatley chooses specific materials for use in the invention because of their refractive index. Thus, it is the examiner's position that the use of additional blend layers or adhesive layers soluble in the surrounding layers in the claimed multilayer structure provide a novel and unobvious step over the prior art.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdb



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